

WHAT IS CLAIMED IS:

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1. A remote management system for performing remote management of a plurality of electronic apparatuses via a communication line and an intermediary apparatus by a managing apparatus,  
10 wherein:

the managing apparatus comprises:

a first storage part storing first software with which second software of each of the electronic apparatuses is overwritten to be updated;  
15 and

a software transmitting part that transmits the first software to the intermediary apparatus via the communication line;

the intermediary apparatus comprises:

20 a second storage part;

a software writing part that writes the first software to the second storage part when acquiring the first software from the managing apparatus; and

25 a software transmitting part that

transmits the first software stored in the second storage part to one of the electronic apparatuses which one requires the second software thereof to be updated; and

- 5                   the electronic apparatuses each comprises:
- a non-volatile storage part storing the second software controlling an operation of the electronic apparatus; and
- a software updating part that updates
- 10   the second software stored in the non-volatile storage part based on the first software when receiving the first software from the intermediary apparatus.

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2. The remote management system as claimed in claim 1, wherein, when two or more of the
- 20   electronic apparatuses require the second software thereof to be updated, the software transmitting part of the intermediary apparatus transmits the first software stored in the second storage part to each of the two or more of the electronic apparatuses.

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3. The remote management system as claimed  
in claim 2, wherein

the first software stored in the storage  
part of the managing apparatus comprises software  
5 programs of different types;

the second software differs in type between  
two or more of the electronic apparatuses; and

the software transmitting part of the  
intermediary apparatus transmits two or more of the  
10 software programs of the first software to the two or  
more of the electronic apparatuses in accordance with  
the types of the second software thereof.

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4. The remote management system as claimed  
in claim 1, wherein:

the managing apparatus further comprises:  
20 a schedule generating part that  
generates an update date and time for updating the  
second software; and

a schedule transmitting part that  
transmits the generated update date and time to the  
25 intermediary apparatus;

the software transmitting part of the managing apparatus transmits the first software stored in the first storage part to the intermediary apparatus at a request thereof; and

5           the intermediary apparatus further comprises:

          a schedule writing part that writes the update date and time to the second storage part when receiving the update date and time from the managing  
10   apparatus; and

          a transmission requesting part that requests the managing apparatus to transmit the first software to the intermediary apparatus when the update date and time stored in the second storage  
15   part is reached.

20           5. The remote management system as claimed in claim 4, wherein:

          the intermediary apparatus further comprises:

          a transmission rate measuring part that  
25   measures a first transmission rate between the

intermediary apparatus and the managing apparatus and  
a second transmission rate between the intermediary  
apparatus and the one of the electronic apparatus  
which one requires the second software thereof to be  
5 updated; and

a transmission rate reporting part that  
reports the first and second transmission rates to  
the managing apparatus; and

the schedule generating part of the managing  
10 apparatus generates the update date and time based on  
an amount of data of the first software stored in the  
first storage part and the first and second  
transmission rates received from the intermediary  
apparatus.

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6. The remote management system as claimed  
20 in claim 4, wherein:

the software transmitting part of the  
intermediary apparatus comprises a communication  
requesting part that makes a request to the one of  
the electronic apparatuses for communication with the  
25 intermediary apparatus before transmitting the first

software stored in the second storage part to the one  
of the electronic apparatuses, and transmits the  
first software stored in the second storage part to  
the one of the electronic apparatuses when receiving  
5 a response to said request therefrom; and

each of the electronic apparatuses comprises  
a response part that responds to said request when  
receiving said request from the intermediary  
apparatus.

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7. The remote management system as claimed  
15 in claim 4, wherein:

the software transmitting part of the  
intermediary apparatus comprises a communication  
requesting part that makes a request for the one of  
the electronic apparatuses to communicate with the  
20 intermediary apparatus before transmitting the first  
software stored in the second storage part to the one  
of the electronic apparatuses; and

each of the electronic apparatuses  
comprises:

25 a deferment period managing part that

manages a performance deferment period from when said request from the intermediary apparatus is received to when it becomes possible to update the second software; and

5                   a response part that responds to said request after passage of the performance deferment period.

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8. The remote management system as claimed in claim 4, wherein:

                  the intermediary apparatus further  
15 comprises:

                  a status checking part that checks a status of the one of the electronic apparatuses; and  
                  an update date and time changing part that changes the update date and time stored in the  
20 second storage part so that a start of the updating of the second software is deferred for a predetermined period of time when it is determined based on a result of the checking by the status checking part that the one of the electronic  
25 apparatuses is prevented from starting the updating

of the second software immediately.

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9. The remote management system as claimed  
in claim 4, wherein the intermediary apparatus  
further comprises an update date and time changing  
part that changes the update date and time stored in  
10 the second storage part so that a start of the  
updating of the second software is deferred for a  
predetermined period of time when receiving a request  
to defer the updating of the second software from  
outside the intermediary apparatus.

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10. The remote management system as claimed  
20 in claim 1, wherein:

the managing apparatus further comprises a  
schedule generating part generating a transmission  
date and time for transmitting the first software and  
an update date and time for updating the second  
25 software;



the software transmitting part of the managing apparatus transmits the first software stored in the first storage part and the generated update date and time to the intermediary apparatus  
5 when the generated transmission date and time is reached;

the software writing part of the intermediary apparatus writes the first software and the update date and time to the second storage part  
10 when receiving the first software and the update date and time from the managing apparatus; and

the software transmitting part of the intermediary apparatus transmits the first software stored in the second storage part to the one of the  
15 electronic apparatuses which one requires the second software thereof to be updated when the update date and time stored in the storage part is reached.

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11. The remote management system as claimed in claim 10, wherein:

the intermediary apparatus further  
25 comprises:

a transmission rate measuring part  
measuring a first transmission rate between the  
intermediary apparatus and the managing apparatus and  
a second transmission rate between the intermediary  
5 apparatus and the one of the electronic apparatus  
which one requires the second software thereof to be  
updated; and

a transmission rate reporting part  
reporting the first and second transmission rates to  
10 the managing apparatus; and

the schedule generating part of the managing  
apparatus generates the transmission date and time  
and the update date and time based on an amount of  
data of the first software stored in the first  
15 storage part and the first and second transmission  
rates received from the intermediary apparatus.

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12. The remote management system as claimed  
in claim 10, wherein:

the software transmitting part of the  
intermediary apparatus comprises a communication  
25 requesting part that makes a request to the one of

the electronic apparatuses for communication with the intermediary apparatus before transmitting the first software stored in the second storage part to the one of the electronic apparatuses, and transmits the

5 first software stored in the second storage part to the one of the electronic apparatuses when receiving a response to said request therefrom; and

each of the electronic apparatuses comprises a response part that responds to said request when  
10 receiving said request from the intermediary apparatus.

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13. The remote management system as claimed in claim 10, wherein:

the software transmitting part of the intermediary apparatus comprises a communication  
20 requesting part that makes a request for the one of the electronic apparatuses to communicate with the intermediary apparatus before transmitting the first software stored in the second storage part to the one of the electronic apparatuses; and

25 each of the electronic apparatuses

comprises:

a deferment period managing part that manages a performance deferment period from when said request from the intermediary apparatus is received  
5 to when it becomes possible to update the second software; and

a response part that responds to said request after passage of the performance deferment period.

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14. The remote management system as claimed  
15 in claim 10, wherein:

the intermediary apparatus further comprises:

a status checking part that checks a status of the one of the electronic apparatuses; and  
20 an update date and time changing part that changes the update date and time stored in the second storage part so that a start of the updating of the second software is deferred for a predetermined period of time when it is determined  
25 based on a result of the checking by the status

checking part that the one of the electronic apparatuses is prevented from starting the updating of the second software immediately.

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15. The remote management system as claimed in claim 10, wherein the intermediary apparatus further comprises an update date and time changing part that changes the update date and time stored in the second storage part so that a start of the updating of the second software is deferred for a predetermined period of time when receiving a request to defer the updating of the second software from outside the intermediary apparatus.

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16. The remote management system as claimed in claim 1, wherein:

the intermediary apparatus comprises a status checking part that checks a status of the one of the electronic apparatuses; and

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the software transmitting part of the intermediary apparatus comprises an updating necessity determining part that determines whether the updating of the second software of the one of the electronic apparatuses has normally ended based on a result of the checking by the status checking part, and repeats the transmission of the first software stored in the second storage to the one of the electronic apparatuses until the updating necessity determining part determines that the updating of the second software of the one of the electronic apparatuses has normally ended.

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17. The remote management system as claimed in claim 16, wherein:

the updating necessity determining part of the intermediary apparatus determines that the updating of the second software of the one of the electronic apparatuses has normally ended when receiving a power-on report indicating that power is turned on from the one of the electronic apparatuses; and

each of the electronic apparatuses  
comprises:

a restart commanding part that causes  
the electronic apparatus to restart after the  
5 updating of the second software by the software  
updating part is completed; and

a power-on reporting part that reports  
to the intermediary apparatus that the power is  
turned on after the restarting of the electronic  
10 apparatus.

15 18. The remote management system as claimed  
in claim 16, wherein the software transmitting part  
of the intermediary apparatus comprises a part that  
stops the transmission of the first software to the  
one of the electronic apparatuses when the  
20 transmission is prevented from being completed by a  
preset expiration date and time.

19. The remote management system as claimed  
in claim 1, wherein the software updating part of  
each of the electronic apparatuses comprises a part  
that cancels the updating of the second software when  
5 receiving a request to cancel the updating of the  
software from outside the electronic apparatus.

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20. An intermediary apparatus connected to  
a managing apparatus via a communication line so as  
to control communication between the managing  
apparatus and one or more electronic apparatuses  
15 managed remotely by the managing apparatus, the  
intermediary apparatus comprising:

a storage part;

a software writing part that writes first  
software to the storage part when receiving the first  
20 software from the managing apparatus; and

a software transmitting part that transmits  
the first software stored in the storage part to one  
of the electronic apparatuses each storing second  
software therein which one requires the second  
25 software to be updated.



21. The intermediary apparatus as claimed  
in claim 20, wherein, when two or more of the  
electronic apparatuses require the second software  
stored therein to be updated, the software  
5 transmitting part transmits the first software to  
each of the two or more of the electronic apparatuses.

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22. The intermediary apparatus as claimed  
in claim 21, wherein

the first software comprises software  
programs of different types;

15 the second software differs in type between  
two or more of the electronic apparatuses; and

the software transmitting part transmits two  
or more of the software programs of the first  
software to the two or more of the electronic  
20 apparatuses in accordance with the types of the  
second software thereof.

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23. The intermediary apparatus as claimed  
in claim 20, further comprising:

a schedule writing part that writes an  
update date and time to the storage part when  
5 receiving the update date and time from the managing  
apparatus; and

a transmission requesting part that requests  
the managing apparatus to transmit the first software  
to the intermediary apparatus when the update date  
10 and time stored in the storage part is reached.

15 24. The intermediary apparatus as claimed  
in claim 23, wherein the software transmitting part  
comprises a communication requesting part that makes  
a request to the one of the electronic apparatuses  
for communication with the intermediary apparatus  
20 before transmitting the first software stored in the  
storage part to the one of the electronic apparatuses,  
and transmits the first software stored in the  
storage part to the one of the electronic apparatuses  
when receiving a response to said request therefrom.

25

25. The intermediary apparatus as claimed in claim 23, further comprising:

a status checking part that checks a status of the one of the electronic apparatuses; and

5 an update date and time changing part that changes the update date and time stored in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when it is determined based on a  
10 result of the checking by the status checking part that the one of the electronic apparatuses is prevented from starting the updating of the second software immediately.

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26. The intermediary apparatus as claimed in claim 23, further comprising an update date and  
20 time changing part that changes the update date and time stored in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when receiving a request to defer the updating of the second software from  
25 outside the intermediary apparatus.

27. The intermediary apparatus as claimed  
in claim 26, wherein the software transmitting part  
comprises a part that stops the transmission of the  
first software to the one of the electronic  
5 apparatuses when the transmission is prevented from  
being completed by a preset expiration date and time.

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28. The intermediary apparatus as claimed  
in claim 20, wherein:

the software writing part writes the first  
software and an update date and time to the storage  
15 part when receiving the first software and the update  
date and time from the managing apparatus; and

the software transmitting part transmits the  
first software stored in the storage part to the one  
of the electronic apparatuses which one requires the  
20 second software thereof to be updated when the update  
date and time stored in the storage part is reached.

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29. The intermediary apparatus as claimed  
in claim 28, wherein the software transmitting part  
comprises a communication requesting part that makes  
a request to the one of the electronic apparatuses  
5 for communication with the intermediary apparatus  
before transmitting the first software stored in the  
storage part to the one of the electronic apparatuses,  
and transmits the first software stored in the  
storage part to the one of the electronic apparatuses  
10 when receiving a response to said request therefrom.

15 30. The intermediary apparatus as claimed  
in claim 28, further comprising:  
a status checking part that checks a status  
of the one of the electronic apparatuses; and  
an update date and time changing part that  
20 changes the update date and time stored in the  
storage part so that a start of updating of the  
second software is deferred for a predetermined  
period of time when it is determined based on a  
result of the checking by the status checking part  
25 that the one of the electronic apparatuses is

prevented from starting the updating of the second software immediately.

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31. The intermediary apparatus as claimed in claim 28, further comprising an update date and time changing part that changes the update date and time stored in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when receiving a request to defer the updating of the second software from outside the intermediary apparatus.

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32. The intermediary apparatus as claimed in claim 31, wherein the software transmitting part comprises a part that stops the transmission of the first software to the one of the electronic apparatuses when the transmission is prevented from being completed by a preset expiration date and time.

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33. The intermediary apparatus as claimed in claim 20, further comprising a status checking part that checks a status of the one of the electronic apparatuses; and

5           the software transmitting part comprises an updating necessity determining part that determines whether updating of the second software of the one of the electronic apparatuses has normally ended based on a result of the checking by the status checking  
10       part, and repeats the transmission of the first software stored in the storage to the one of the electronic apparatuses until the updating necessity determining part determines that the updating of the second software of the one of the electronic  
15       apparatuses has normally ended.

20           34. The intermediary apparatus as claimed in claim 33, wherein the updating necessity determining part determines that the updating of the second software of the one of the electronic apparatuses has normally ended when receiving a  
25       power-on report indicating that power is turned on

from the one of the electronic apparatuses

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35. The intermediary apparatus as claimed  
in claim 33, wherein the software transmitting part  
comprises a part that stops the transmission of the  
first software to the one of the electronic  
10 apparatuses when the transmission is prevented from  
being completed by a preset expiration date and time.

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36. A software updating method in an  
intermediary apparatus connected to a managing  
apparatus via a communication line so as to control  
communication between the managing apparatus and one  
20 or more electronic apparatuses managed remotely by  
the managing apparatus, the software updating method  
comprising the steps of:

(a) writing an update date and time to a  
storage part of the intermediary apparatus when the  
25 update date and time is received from the managing



apparatus;

(b) requesting the managing apparatus to transmit software to the intermediary apparatus when the update date and time in the storage part is

5 reached; and

(c) writing the software to the storage part when the software transmitted in response to said step (b) from the managing apparatus is acquired, transmitting the software in the storage part to at  
10 least one of the electronic apparatuses which one requires software thereof to be updated, and causing the one of the electronic apparatuses to update the software thereof.

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37. The software updating method as claimed in claim 36, further comprising the step of:

20 (d) checking a status of the one of the electronic apparatuses; and

(e) changing the update date and time stored in the storage part so that a start of the updating of the software is deferred for a predetermined  
25 period of time when it is determined based on a

result of the checking by said step (d) that the one of the electronic apparatuses is prevented from starting the updating of the software immediately.

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38. The software updating method as claimed in claim 36, further comprising the step of (d) changing the update date and time stored in the storage part so that a start of the updating of the software is deferred for a predetermined period of time when receiving a request to defer the updating of the software from outside the intermediary apparatus.

20 39. The software updating method as claimed in claim 36, further comprising the steps of:

(d) checking a status of the one of the electronic apparatuses; and

(e) repeating the transmission of the software stored in the storage to the one of the

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electronic apparatuses until it is determined based on a result of the checking by said step (d) that the updating of the software of the one of the electronic apparatuses has normally ended.

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40. The software updating method as claimed  
10 in claim 39, further comprising the step of (f)  
stopping the transmission of the software to the one  
of the electronic apparatuses when the transmission  
is prevented from being completed by a preset  
expiration date and time.

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41. A software updating method in an  
20 intermediary apparatus connected to a managing  
apparatus via a communication line so as to control  
communication between the managing apparatus and one  
or more electronic apparatuses managed remotely by  
the managing apparatus, the software updating method  
25 comprising the steps of:

(a) writing software and an update date and time to a storage part of the intermediary apparatus when the software and the update date and time are received from the managing apparatus; and

5           (b) transmitting the software in the storage part to at least one of the electronic apparatuses which one requires software thereof to be updated and causing the one of the electronic apparatuses to update the software thereof when the update date and  
10   time in the storage part is reached.

15           42. The software updating method as claimed in claim 41, further comprising the step of:

(c) checking a status of the one of the electronic apparatuses; and

(d) changing the update date and time stored  
20   in the storage part so that a start of the updating of the software is deferred for a predetermined period of time when it is determined based on a result of the checking by said step (c) that the one of the electronic apparatuses is prevented from  
25   starting the updating of the software immediately.

43. The software updating method as claimed in claim 41, further comprising the step of (c) changing the update date and time stored in the storage part so that a start of the updating of the software is deferred for a predetermined period of time when receiving a request to defer the updating of the software from outside the intermediary apparatus.

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44. The software updating method as claimed in claim 41, further comprising the steps of:

15 (c) checking a status of the one of the electronic apparatuses; and

(d) repeating the transmission of the software stored in the storage to the one of the electronic apparatuses until it is determined based on a result of the checking by said step (c) that the updating of the software of the one of the electronic apparatuses has normally ended.

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45. The software updating method as claimed in claim 44, further comprising the step of (e) stopping the transmission of the software to the one of the electronic apparatuses when the transmission is prevented from being completed by a preset expiration date and time.

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46. A software updating method in an intermediary apparatus connected to a managing apparatus via a communication line so as to control communication between the managing apparatus and one or more electronic apparatuses managed remotely by the managing apparatus, the software updating method comprising the steps of:

(a) writing first software to a storage part of the intermediary apparatus when the first software is received from the managing apparatus; and

(b) transmitting the first software stored in the storage part to one of the electronic apparatuses each storing second software therein which one requires the second software to be updated.

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47. The software updating method as claimed  
in claim 46, wherein, when two or more of the  
electronic apparatuses require the second software  
stored therein to be updated, said step (b) transmits  
5 the first software to each of the two or more of the  
electronic apparatuses.

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48. The software updating method as claimed  
in claim 47, wherein  
the first software comprises software  
programs of different types;  
15 the second software differs in type between  
two or more of the electronic apparatuses; and  
said step (b) transmits two or more of the  
software programs of the first software to the two or  
more of the electronic apparatuses in accordance with  
20 the types of the second software thereof.

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49. The software updating method as claimed

in claim 46, further comprising the steps of:

(c) writing an update date and time to the storage part when the update date and time is received from the managing apparatus; and

5 (d) requesting the managing apparatus to transmit the first software to the intermediary apparatus when the update date and time stored in the storage part is reached.

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50. The software updating method as claimed in claim 49, wherein said step (b) comprises the step  
15 of (e) making a request to the one of the electronic apparatuses for communication with the intermediary apparatus before transmitting the first software stored in the storage part to the one of the  
electronic apparatuses, and transmits the first  
20 software stored in the storage part to the one of the electronic apparatuses when a response to said request is received therefrom.

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51. The software updating method as claimed in claim 49, further comprising the steps of:

(e) checking a status of the one of the electronic apparatuses; and

5 (f) changing the update date and time stored in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when it is determined based on a result of the checking by said step (e) that the one  
10 of the electronic apparatuses is prevented from starting the updating of the second software immediately.

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52. The software updating method as claimed in claim 49, further comprising the step of (e) changing the update date and time stored in the  
20 storage part so that a start of updating of the second software is deferred for a predetermined period of time when a request to defer the updating of the second software is received from outside the intermediary apparatus.

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53. The software updating method as claimed  
in claim 52, wherein said step (b) comprises the step  
of (f) stopping the transmission of the first  
software to the one of the electronic apparatuses  
5 when the transmission is prevented from being  
completed by a preset expiration date and time.

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54. The software updating method as claimed  
in claim 46, wherein:

said step (a) writes the first software and  
an update date and time to the storage part when the  
15 first software and the update date and time are  
received from the managing apparatus; and

said step (b) transmits the first software  
stored in the storage part to the one of the  
electronic apparatuses which one requires the second  
20 software thereof to be updated when the update date  
and time stored in the storage part is reached.

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55. The software updating method as claimed in claim 54, wherein said step (b) comprises the step of (c) making a request to the one of the electronic apparatuses for communication with the intermediary  
5 apparatus before transmitting the first software stored in the storage part to the one of the electronic apparatuses, and transmits the first software stored in the storage part to the one of the electronic apparatuses when a response to said  
10 request is received therefrom.

15 56. The software updating method as claimed in claim 54, further comprising the steps of:

(c) checking a status of the one of the electronic apparatuses; and

(d) changing the update date and time stored  
20 in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when it is determined based on a result of the checking by said step (c) that the one of the electronic apparatuses is prevented from  
25 starting the updating of the second software

immediately.

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57. The software updating method as claimed in claim 54, further comprising the step of (c) changing the update date and time stored in the storage part so that a start of updating of the  
10 second software is deferred for a predetermined period of time when a request to defer the updating of the second software is received from outside the intermediary apparatus.

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58. The software updating method as claimed in claim 57, wherein said step (b) comprises the step  
20 of stopping the transmission of the first software to the one of the electronic apparatuses when the transmission is prevented from being completed by a preset expiration date and time.

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59. The software updating method as claimed in claim 46, further comprising the step of (c) checking a status of the one of the electronic apparatuses,

5                wherein said step (b) comprises the step of  
                 (d) determining whether updating of the second  
                 software of the one of the electronic apparatuses has  
                 normally ended based on a result of the checking by  
                 said step (c), and repeats the transmission of the  
10                first software stored in the storage to the one of  
                 the electronic apparatuses until said step (d)  
                 determines that the updating of the second software  
                 of the one of the electronic apparatuses has normally  
                 ended.

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60. The software updating method as claimed  
20 in claim 59, wherein said step (d) determines that  
                 the updating of the second software of the one of the  
                 electronic apparatuses has normally ended when a  
                 power-on report indicating that power is turned on is  
                 received from the one of the electronic apparatuses

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61. The software updating method as claimed  
in claim 59, wherein said step (b) comprises the step  
of (e) stopping the transmission of the first  
software to the one of the electronic apparatuses  
5 when the transmission is prevented from being  
completed by a preset expiration date and time.

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62. A computer-readable recording medium  
recording a program for causing a computer to execute  
a software updating method in an intermediary  
apparatus connected to a managing apparatus via a  
15 communication line so as to control communication  
between the managing apparatus and one or more  
electronic apparatuses managed remotely by the  
managing apparatus, the software updating method  
comprising the steps of:

20 (a) writing first software to a storage part  
of the intermediary apparatus when the first software  
is received from the managing apparatus; and

(b) transmitting the first software stored  
in the storage part to one of the electronic  
25 apparatuses each storing second software therein

which one requires the second software to be updated.

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63. The computer-readable recording medium  
as claimed in claim 62, wherein, when two or more of  
the electronic apparatuses require the second  
software stored therein to be updated, said step (b)  
10 transmits the first software to each of the two or  
more of the electronic apparatuses.

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64. The computer-readable recording medium  
as claimed in claim 63, wherein  
the first software comprises software  
programs of different types;  
20 the second software differs in type between  
two or more of the electronic apparatuses; and  
said step (b) transmits two or more of the  
software programs of the first software to the two or  
more of the electronic apparatuses in accordance with  
25 the types of the second software thereof.

65. The computer-readable recording medium as claimed in claim 62, wherein the software updating method further comprises the steps of:

(c) writing an update date and time to the  
5 storage part when the update date and time is received from the managing apparatus; and

(d) requesting the managing apparatus to transmit the first software to the intermediary apparatus when the update date and time stored in the  
10 storage part is reached.

15 66. The computer-readable recording medium as claimed in claim 65, wherein said step (b) comprises the step of (e) making a request to the one of the electronic apparatuses for communication with the intermediary apparatus before transmitting the  
20 first software stored in the storage part to the one of the electronic apparatuses, and transmits the first software stored in the storage part to the one of the electronic apparatuses when a response to said request is received therefrom.

25



67. The computer-readable recording medium as claimed in claim 65, wherein the software updating method further comprises the steps of:

(e) checking a status of the one of the  
5 electronic apparatuses; and

(f) changing the update date and time stored in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when it is determined based on a  
10 result of the checking by said step (e) that the one of the electronic apparatuses is prevented from starting the updating of the second software immediately.

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68. The computer-readable recording medium as claimed in claim 65, wherein the software updating  
20 method further comprises the step of (e) changing the update date and time stored in the storage part so that a start of updating of the second software is deferred for a predetermined period of time when a request to defer the updating of the second software  
25 is received from outside the intermediary apparatus.

69. The computer-readable recording medium  
as claimed in claim 68, wherein said step (b)  
comprises the step of (f) stopping the transmission  
of the first software to the one of the electronic  
5 apparatuses when the transmission is prevented from  
being completed by a preset expiration date and time.

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70. The computer-readable recording medium  
as claimed in claim 62, wherein:

said step (a) writes the first software and  
an update date and time to the storage part when the  
15 first software and the update date and time are  
received from the managing apparatus; and

said step (b) transmits the first software  
stored in the storage part to the one of the  
electronic apparatuses which one requires the second  
20 software thereof to be updated when the update date  
and time stored in the storage part is reached.

25

71. The computer-readable recording medium  
as claimed in claim 70, wherein said step (b)  
comprises the step of (c) making a request to the one  
of the electronic apparatuses for communication with  
5 the intermediary apparatus before transmitting the  
first software stored in the storage part to the one  
of the electronic apparatuses, and transmits the  
first software stored in the storage part to the one  
of the electronic apparatuses when a response to said  
10 request is received therefrom.

15 72. The computer-readable recording medium  
as claimed in claim 70, wherein the software updating  
method further comprises the steps of:

(c) checking a status of the one of the  
electronic apparatuses; and

20 (d) changing the update date and time stored  
in the storage part so that a start of updating of  
the second software is deferred for a predetermined  
period of time when it is determined based on a  
result of the checking by said step (c) that the one  
25 of the electronic apparatuses is prevented from

starting the updating of the second software  
immediately.

5

73. The computer-readable recording medium  
as claimed in claim 70, wherein the software updating  
method further comprises the step of (c) changing the  
10 update date and time stored in the storage part so  
that a start of updating of the second software is  
deferred for a predetermined period of time when a  
request to defer the updating of the second software  
is received from outside the intermediary apparatus.

15

74. The computer-readable recording medium  
20 as claimed in claim 73, wherein said step (b)  
comprises the step of stopping the transmission of  
the first software to the one of the electronic  
apparatuses when the transmission is prevented from  
being completed by a preset expiration date and time.

25

75. The computer-readable recording medium  
as claimed in claim 62, wherein:

the software updating method further  
comprises the step of (c) checking a status of the  
5 one of the electronic apparatuses; and

said step (b) comprises the step of (d)  
determining whether updating of the second software  
of the one of the electronic apparatuses has normally  
ended based on a result of the checking by said step  
10 (c), and repeats the transmission of the first  
software stored in the storage to the one of the  
electronic apparatuses until said step (d) determines  
that the updating of the second software of the one  
of the electronic apparatuses has normally ended.

15

76. The computer-readable recording medium  
20 as claimed in claim 75, wherein said step (d)  
determines that the updating of the second software  
of the one of the electronic apparatuses has normally  
ended when a power-on report indicating that power is  
turned on is received from the one of the electronic  
25 apparatuses

77. The computer-readable recording medium  
as claimed in claim 75, wherein said step (b)  
comprises the step of (e) stopping the transmission  
of the first software to the one of the electronic  
5 apparatuses when the transmission is prevented from  
being completed by a preset expiration date and time.

10

78. A program for causing a computer to  
execute a software updating method in an intermediary  
apparatus connected to a managing apparatus via a  
communication line so as to control communication  
15 between the managing apparatus and one or more  
electronic apparatuses managed remotely by the  
managing apparatus, the software updating method  
comprising the steps of:

(a) writing first software to a storage part  
20 of the intermediary apparatus when the first software  
is received from the managing apparatus; and

(b) transmitting the first software stored  
in the storage part to one of the electronic  
apparatuses each storing second software therein  
25 which one requires the second software to be updated.